

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A process for developing a voice application, including:

generating graphical user interface components for defining execution paths of said a voice application by arranging dialog elements in a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements;

receiving user input generated by user interaction with said graphical user interface components;

processing said user input to define a voice application by selecting dialog elements representing components of said voice application, configuring properties of the selected dialog elements, and defining execution paths of said voice application as respective sequences of at least a subset of the selected dialog elements; and

generating said dialog elements on the basis of predetermined templates and properties of said dialog elements, said properties received from a user via said graphical user interface components, each of said dialog elements corresponding to at least one voice language template; and

generating at least one voice language module voice application code for said application on the basis of said at least one voice language template and said properties, said application code representing each dialog element of said voice application as a sequence of VoiceXML elements including extended attributes to allow said tree structure of said application to be determined.

2. (Canceled) ~~A process as claimed in claim 1, wherein the voice language templates include VoiceXML elements.~~

3. (Canceled) ~~A process as claimed in claim 2, wherein said at least one voice language module includes extended VoiceXML elements including VoiceXML tags and additional~~

~~information to allow said dialog elements to be generated from said at least one voice language module.~~

4. (Canceled) A process as claimed in claim 3, wherein said additional information includes one or more attributes of said VoiceXML tags.

5. (Currently Amended) A process as claimed in claim [[4]] 1, wherein said ~~one or more extended~~ attributes ~~include~~ are qualified names of a qualified XML namespace.

6. (Currently Amended) A process as claimed in claim 1, wherein each dialog element of said ~~at least one voice language modules~~ application code includes a reference to the next of said ~~at least one voice language modules~~ dialog elements in an execution path of said application.

7. (Currently Amended) A process as claimed in claim 1, including processing said application code to generate a visual ~~generating a graphical~~ representation of said dialog elements and said execution paths ~~on the basis of said at least one voice language module~~.

8. (Currently Amended) A process as claimed in claim 1, wherein said step of generating application code includes ~~including~~ generating extended VoiceXML code, prompt data, and grammar data for said application.

9. (Original) A process as claimed in claim 8, wherein said prompt data is represented as a grammar, and said process includes improving said grammar.

10. (Currently Amended) A process as claimed in claim ~~4~~ 8, including generating at least one script for generating a prompt for said application on the basis of one or more parameters supplied to said script.

11. (Original) A process as claimed in claim 10, wherein said at least one script is generated on the basis of at least one script template and prompt data defined for said prompt by a user.

12. (Currently Amended) A process as claimed in claim 44 10, wherein said at least one script includes ECMAScript ~~EMCAscript~~.
13. (Original) A process as claimed in claim 8, including generating VoiceXML code and IVR grammar data for execution of said application on an IVR system on the basis of said extended VoiceXML code, prompt data, and grammar data.
14. (Previously Presented) A system having components for executing the process of claim 1.
15. (Canceled) ~~A system having components for executing the process of claim 1.~~
16. (Currently Amended) A computer readable storage medium having stored thereon program code instructions for executing the process of claim 3 1.
17. (Currently Amended) A system for use in developing a voice application, including:
a dialog element selector configured to define execution paths of said voice application by selecting dialog elements and adding said dialog elements to a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements;
means for receiving user input generated by user interaction with said dialog element selector;
means for processing said user input to define a voice application by selecting dialog elements representing components of said voice application, configuring properties of the selected dialog elements, and defining execution paths of said voice application as respective sequences of at least a subset of the selected dialog elements; and
a dialog element generator for ~~generating said dialog elements on the basis of~~ predetermined templates and properties of said dialog elements, said properties received from a user of said system, each of said dialog elements corresponding to at least one voice language template; and

a code generator for generating ~~at least one voice language module~~ application code for said voice application, said application code representing each dialog element of said voice application as a sequence of VoiceXML elements including extended attributes to allow said tree structure of said voice application to be determined on the basis of said at least one voice language template and said properties.

18. (Currently Amended) A system as claimed in claim 17, wherein said selector is adapted to process said application code to generate a graphical representation of said dialog elements and said execution paths of said application ~~on the basis of said at least one voice language module.~~

19. (Currently Amended) A system as claimed in claim 17, wherein said code generator is ~~adapted to generate~~ extended VoiceXML code, prompt data, and grammar data for said application.

20. (Original) A system as claimed in claim 19, wherein said prompt data is represented as a grammar, and the system includes one or more modules for improving said grammar.

21. (Currently Amended) A system as claimed in claim ~~17~~ 19, including a script generator for generating at least one script for generating a prompt for said application on the basis of one or more parameters supplied to said script.

22. (Currently Amended) A system as claimed in claim 21, wherein said script generator is ~~adapted to generate~~ said at least one script on the basis of at least one script template and prompt data defined for said prompt by a user.

23. (Currently Amended) A system as claimed in claim 19, wherein said code generator is ~~adapted to generate~~ VoiceXML code and IVR grammar data for execution of said application on an IVR system on the basis of said extended VoiceXML code, prompt data, and grammar data.

24. (Currently Amended) An extended VoiceXML file generated by a the system of claim 17.

25. (Currently Amended) A graphical user interface for use in developing a voice application, said interface including graphical user interface components for defining execution paths of said application by arranging ~~configurable~~ dialog elements in a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements, wherein ~~and said dialog elements components may include one at least~~ three of:

- a start dialog component for defining the start of said application;
- a variables component for use in defining variables for said application;
- a menu component for defining a menu;
- a menu choice component for defining a choice of said menu;
- a decision component for defining a decision branching point;
- a decision branch component for defining a test condition and an execution branch of said decision branching point;
- a form component for defining a form to collect input from a caller;
- a record component for recording audio;
- a speaker component for playing prompts[.];
- a local processing component for defining local processing;
- a remote processing component for performing processing on a remote system;
- a loop component for defining an execution loop;
- a loop call component for calling said loop;
- a loop next component for proceeding to the next cycle of said loop;
- a loop break component for breaking out of said loop;
- a subroutine component for defining a subroutine;
- a subroutine call component for calling said subroutine;
- a subroutine return component for returning from said subroutine;
- a jump component for defining a non-sequential execution path to a dialog element;
- a transfer component representing the transfer of a call to another number;

a hotwords component for defining a word or phrase and a non-sequential execution path to a dialog element to be followed upon receipt of said word or phrase; and
an end component for defining an end of said application.

26. (New) A computer readable storage medium having stored thereon application code for a voice application, said application code including a plurality of dialog elements representing components of said voice application, each of said dialog elements being a sequence of VoiceXML elements including extended attributes to allow a tree structure of execution paths of said voice application to be determined, each path through said tree structure representing one of said execution paths.